

AI Mk. IX (1 Viewer)

Petrus Dec 20, 2013



Petrus

ACCESS: Top Secret

Senior Member

Dec 20, 2013

#1

Currently I'm seeking information of the AI Mk. IX (mark nine) radar developed in the UK during WW2. Any info would be appreciated, esp. the radar's specifications and history of its development.

Piotr

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JFC Fuller

ACCESS: Top Secret

Senior Member

Dec 20, 2013

#2

"*The Secret War Factory*" by Charles Exton has a short blurb.

The summary is that initial progress was slow because of the emphasis on the Mk.VIII, it was later realised that the MkIX would have to operate on a different wavelength and that consequently it would not be available in any quantity until the end of the war so the US SCR-720 was procured instead. The effects of window appear to have been the reason for the change in band.

This article gives further and slightly different detail:

http://600squadronassociation.com/uploads/A_SHORT_HISTORY_OF_AIR_INTERCEPT_RADAR_AND_THE_BRITISH_Pt_2.pdf

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B

Basil

ACCESS: Secret

Dec 22, 2013

#3

... not about the AI Mk IX, but a detailed technical summary of all other RAF radars in WW 2 ...

http://www.vmarsmanuals.co.uk/archive/632_AP1093D_Pt2_Introductory_Survey_of_Radar_screenread.pdf

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Y

yellowaster

ACCESS: Confidential

Dec 23, 2013

#4

AI.9 was a 9 cm lock-follow radar developed as a successor to AI.8. The set's developer and an early model were lost in a friendly-fire incident which delayed development. The set was overtaken by the US-built AI.X and never entered service during the war. A number of models were projected: the basic AI.9; AI.9A (windscreen projection); AI.9B (windscreen projection and roll-stabilisation); AI.9C (gyro gunsight); and AI.9D (electrical prediction). Development was continued in the early post-war but the set was not a success, being assessed as inferior to AI.X. AI.9B was fitted to the unsuccessful Mosquito NF.38, which was apparently sold to Yugoslavia. AI.9C was eventually developed into AI.17 and saw RAF service in the Gloster Javelin

Report

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Reply

M

Maury Markowitz

From the Great White North!

Mar 8, 2014

#5

(first post, hi everyone!)

I'm currently collecting materials for an article on the Mk. IX. What I have so far...

Development started under Lovell and Williams in 1941 as a direct modification to the Mk. VII/VIII. Lovell was pulled off to work on H2S in december, officially leaving 1 Jan 1942. His place was taken by Downing, and apparently there was little effect on the timelines.

By mid-42 the system was entering the final stages of development. It was at this point that Bomber Command started pressing for the right to use "window". Fighter Command pushed back, noting that the Germans would figure it out instantly and would return the favour, potentially opening the UK to night attack again.

PO Jackson (IIRC) was put in charge of figuring out what window would do to the Mk. VIII. In multiple tests through September and on he noted that it was possible to slightly modify the displays to make it clear what was window and what wasn't. Much of this had to do with the movement of the blips - window stops dead after being dropped, so it approaches you much faster than a bomber that's continuing to fly away from you.

This led to the idea that the Mk. IX might be naturally immune to window. After locking on it gated the ranges, so returns travelling past the gates too quickly would simply disappear, leaving on the bomber and perhaps some momentary blips from the window. Jackson tested the Mk. IX, and to everyone's dismay it did precisely the opposite, and locked onto the window. Once that happened, finding the bomber again was almost impossible, especially if it was at long range and merging with the ground returns.

Downing was convinced this was an easy fix, simply adjusting the range gates to be more tightly locked on the range, so window would drop past the gate almost instantly. He had the modifications completed by December and they went to test them. While Jackson dropped window from one Beaufighter, Downing was in another working the Mk. IX. Both were intercepted by Spits; Jackson made it back but Downing crashed into the sea.

Development was picked up under another leader (Bowen?), but the loss of the only prototype was a major problem. By the time things were moving along again in 1943, the SCR-720 had been tested by Jackson and found that it's spiral-scan display made picking out the bomber somewhat easier. A big order for the "Mk. X" followed, and window was cleared for use.

I have seen statements that the AI.17 was the ultimate development of the Mk. IX. However, this is all I've seen - statements. And they are not clear if they mean the 17 is a direct development (with a more powerful mag basically) or is its "spiritual development" in that it also incorporated Mk. IX features. Still researching this.

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Reply

Y

yellowaster

ACCESS: Confidential

Apr 5, 2014

#6

Development of AI.9C was continued post-war and the system was eventually redesignated AI.17.

Report

Like

Reply

M

Maury Markowitz

From the Great White North!

May 6, 2014

#7

yellowaster said:

Development of AI.9C was continued post-war and the system was eventually redesignated AI.17.

As I understand it, the AI.17 featured some sort of doppler navigation mode. Is that correct? If so, I would suspect that it would have been radically different than the Mk. IX, at least from the feed horn back.

Can anyone offer pointers to a source for any of this? I had an email exchange with someone from your side of the pond, but by the time I put together the room on the credit card it had disappeared from my email!

ReportLikeReply

Y

yellowaster

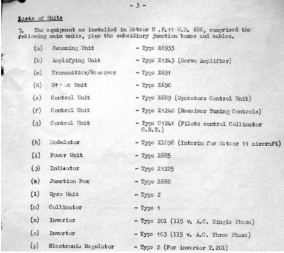
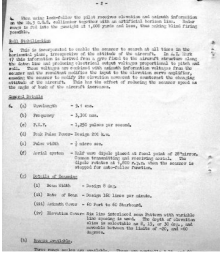
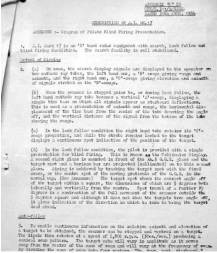
ACCESS: Confidential

May 17, 2014

#8

No Doppler that I'm aware of

Attachments



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ReportLikeReply

M

Maury Markowitz

From the Great White North!

Jun 2, 2014

#9

yellowaster said:

No Doppler that I'm aware of

Most excellent! Thank you so much!

ReportLikeReply

M

Maury Markowitz

From the Great White North!

Jun 6, 2014

#10

I have received a copy of "History of Air Intercept Radar". I'm only on page 15 so far, but I can say without hesitation that if you're even passingly interested in this topic you should get a copy ASAP. It's well

written, with just the right level of detail, and the narrative flows smoothly.
